Listing of Claims

The following listing of claims will replace all prior versions, and listings, of claims in the subject application:

1. (currently amended) An apparatus for displaying image, said apparatus comprising:

~~means for collecting~~ an acquisition part configured to collect CT or MR head image data of a person being examined; [[,]]

~~means for forming~~ a tomogram forming part configured to form a tomogram from said CT or MR head image data; [[,]]

~~means for calculating~~ an analysis part configured to calculate at least one biological function data in said tomogram, formed based on said CT or MR head image data, regarding temporal changes in values of the same pixels or section of an organ with passage of time; [[,]]

~~means for forming~~ a functional image forming part configured to form at least one functional image based on said biological function data; [[,]]

~~means for forming~~ a composite image forming part configured to form a composite image by composing said tomogram and at least one of the following images: [[;]]

an operated image obtained by ~~operating~~ performing an inter-image operation on said functional images together; [[,]]

a ~~composite~~ blended image obtained by composing two or more of said operated image and said functional images together, ~~said operated image, and said functional image~~; and

~~display means capable of displaying~~ a display part configured to display said functional image, said operated image, said tomogram and said composite image; [[,]]

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wherein ~~the means for forming said functional image and the means for forming the~~

~~composite image work to display~~ at least portions of the regions in said functional image and in

said operated image ~~on an arbitrary~~ <u>are displayed using different</u> gradation color <u>scales</u>

[[scale]] corresponding to the evaluated value of said biological function data, and other regions

in said function image and in said operated image are displayed in an arbitrary color which is not

included in said gradation color [[scale]] <u>scales</u>, or are displayed transparently, and said

portions of the regions in the functional image are displayed by an overlapped display.

2. (previously presented) An apparatus according to claim 21, wherein said composite

image is displayed by any one of a parallel display or a partial display.

3. (previously presented) An apparatus according to claim 21, wherein said functional

image forming part sets to zero a ratio of said functional image in other regions in said functional

image.

4. (previously presented) An apparatus according to claim 21, wherein said functional

image forming part arbitrarily varies the gradation color scale allocated to said biological

function data.

5. (previously presented) An apparatus according to claim 21, wherein said functional

image forming part arbitrarily set ratios of the functional images in said composite images and of

said tomogram.

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6. (previously presented) An apparatus according to claim 21, wherein said functional image forming part specifies part of the regions in said functional image depending upon whether the image data value of said pixel unit lies inside or outside a predetermined range.

7. (previously presented) An apparatus according to claim 21, wherein said functional image forming part determines an arbitrary interested region in said functional image as region of interest in said functional image.

8. (currently amended) An apparatus according to claim 21, wherein said functional image forming part renders the pixel values of the pixels of the image data on a predetermined display window value level and in a predetermined display window width to be corresponded to conversion coefficients, and determines said gradation color scale based on the conversion coefficients.

9. (currently amended) An apparatus according to claim [[21]] 8, wherein said functional image forming part determines the gradation color scale allocated to said functional image depending upon the pixel values of the pixels of the image data for each of RGB and upon various look-up tables to which the conversion coefficients are corresponded.

10. (previously presented) An apparatus according to claim 21, wherein said biological function data is at least one of the blood flow function data as represented by blood volume, blood flow and mean transit time.

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11. (currently amended) A method of displaying image, said method comprising:

a step of collecting CT or MR head image data of a person being examined; [[,]]

a step of forming a tomogram from said CT or MR head image data; [[,]]

a step of calculating at least one biological function data in said tomogram, formed based on said CT or MR head image data, regarding temporal changes in values of the same pixels or section of an organ with passage of time; [[,]]

a step of forming at least one function image based on said biological function data; [[,]]

a step of forming an operated image by operating said function images together, for forming a composite image by composing said tomogram and at least one of the following images; [[;]]

an operated image obtained by operating said functional images together; [[,]]

a composite image obtained by composing said functional images together, said operated image, and said functional image; and

a display step capable of displaying said functional image, said operated image, said tomogram and said composite image; [[,]]

wherein the step of forming said functional image and the step of forming the composite image work to display at least portions of the regions in said functional image and in said operated image on an arbitrary are displayed using different gradation color scale corresponding to the evaluated value of said biological function data, and other regions in said functional image and in said operated image are displayed in an arbitrary color which is not included in said gradation color [[scale]] scales, or are displayed transparently, and said portions of the regions in the functional image are displayed by an overlapped display.

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Claim 12 (canceled).

13. (previously presented) A method of displaying image according to claim 11, wherein

the step of forming said functional image sets to zero the ratio of said functional image in other

regions in said functional image.

14. (currently amended) A method of displaying image according to claim 11, ~~wherein~~

~~the step of forming said functional image is capable of~~ further comprising arbitrarily varying

the gradation color scale allocated to said biological function data image.

15. (currently amended) A method of displaying image according to claim 11, ~~wherein~~

~~the step of forming said composite image is capable of~~ further comprising arbitrarily setting the

ratios of the functional images in said synthetic images and of said tomogram.

16. (previously presented) A method of displaying image according to claim 12, wherein

the step of forming said functional image specifies part of the regions in said functional image

depending upon whether the image data value of said pixel unit lies inside or outside a

predetermined range.

17. (previously presented) A method of displaying image according to claim 12, wherein

the step of forming said functional image determines an arbitrary interested region in said

functional image as region of interest in said functional image.

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18. (currently amended) A method of displaying image according to claim 11, wherein the step of forming said functional image renders the pixel values of the pixels of the image data on a predetermined <u>display</u> window <u>value</u> level and in a predetermined <u>display</u> window width to be corresponded to conversion coefficients, and determines said gradation color scale based on the conversion coefficients.

19. (currently amended) A method of displaying image according to claim [[11]] <u>18,</u> wherein the step of forming said functional image determines the gradation color scale allocated to said functional image depending upon the pixel values of the pixels of the image data for each of RGB and upon various look-up tables to which the conversion coefficients are corresponded.

Claim 20 (canceled).

21. (currently amended) A functional image display apparatus comprising<u>:</u>

an acquisition part configured to collect <u>CT or MR head</u> image data of a person being examined<u>;</u> [[,]]

a tomogram forming part configured to form a tomogram from the <u>CT or MR head</u> image data<u>;</u> [[,]]

an analysis part configured to calculate at least one biological function data in said tomogram<u>, formed based on said CT or MR head image data,</u> regarding temporal changes in values of the same pixels or section of an organ with passage of time<u>;</u> [[,]]

a functional image forming part configured to form at least one functional image based on the biological function data<u>;</u> [[,]]

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a composite image forming part configured to form a composite image by composing the tomogram and at least one of the functional image, an operated image obtained by performing an inter-image operation on a plurality of functional images, and a blended image obtained by composing the functional images together; and

a display part configured to display the functional image, the operated image, the tomogram and the composite image: [[,]]

wherein at least portions of regions in the functional image and in the operated image are displayed on an arbitrary using different gradation color [[scale]] scales corresponding to the evaluated value of the biological function data: [[,]]

wherein other regions in the functional image and in the operated image are displayed in an arbitrary color which is not included in the gradation color [[scale]] scales, or are displayed transparently: [[,]] and

wherein the portions of the regions in the functional image are displayed by an overlapped display.

22. (previously presented) The functional image display apparatus of claim 21, wherein the biological function data is perfusion data of brain tissue.